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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,981	10/01/2003	Janne Rautio	879A.0013.U1(US)	9079
29683	7590	09/09/2004	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			LE, HUYEN D	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/677,981	RAUTIO ET AL.	
	Examiner	Art Unit	
	HUYEN D. LE	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 13, 14 and 17 is/are rejected.
- 7) ☒ Claim(s) 5-12, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/01/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Objection C.F. R 1.75

1. Claim 14 is objected to as presented in consistencies.

In claim 14, line 4, before "first", "a" should be changed to --the-- (see the first acoustic path in claim 2, line 4).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 2, it is not clear what the IP 67 standard is.

3. Claim 1 recites the limitation "the IP 67 standard" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Konishi et al. (U.S. 2004/0037441).

Regarding claims 1 and 17, Konishi teaches an acoustic structure protected against dust and water in a device body (the portable telephone unit) that comprises two separate cavities (26, 29). As shown in the drawings, a first cavity (26) is for speaker means (27, 40) and a second cavity (29) is for isolating means as claimed (the diaphragm 30 with different vibration modes for a sound reproduction element).

Regarding claim 2, as shown in figures 1, 3, 8 and 19, the first cavity and second cavity are located substantially parallel in the device body, and the cavities are interconnected through a first acoustic path (31). Further, Konishi shows an open second acoustic path that leads, from the second cavity of the isolating means (30), out of the device.

Regarding claim 3, Konishi shows the mechanical dimensions of the first cavity and the second cavity that are independent of each other.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 4 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konishi et al. (U.S. 2004/0037441).

Regarding claim 4, Konishi teaches an isolating diaphragm (30) with the first and second sub-cavities as claimed. Konishi does not specifically teach the second cavity (29) that is a cylindrical in form. However, providing a frame or a box for a loudspeaker in a cylindrical form is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide any shape for the cavity (29) of the Konishi device such as a cylindrical shape for an alternate choice.

Regarding claim 13, Konishi teaches the first cavity (26) that includes a shoulder to divide the first cavity into two parts (the cavity in the front of the diaphragm 27 and the cavity in the back of the diaphragm 27), and a speaker element (27) as claimed.

Konishi does not specifically teach the first cavity having a cylinder shape as claimed. However, Konishi providing a frame or a box for a loudspeaker in a cylindrical form is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide any shape for the cavity (26) of the Konishi device such as a cylindrical shape for an alternate choice.

Konishi does not specifically teach a sealing ring at the shoulder of the cavity (26) as claimed. However, Konishi providing a sealing ring for supporting at the edge of the diaphragm is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide a sealing ring at the shoulder of the cavity (26) of the Konishi device or at the edge of the diaphragm (27) for better supporting the diaphragm to the speaker frame.

Regarding claim 14, as broadly claimed, Konishi shows a free air space (between the diaphragm and the frame 26) for sound reproduction between the speaker element (27) and the bottom of the first cavity (since the Applicant does not specifically define the location of the bottom cavity, as broadly claimed, the examiner has considered the bottom of the first cavity as the cavity between the diaphragm 27 and the frame 26), and a first acoustic path (31) as claimed.

Allowable Subject Matter

8. Claims 5-12 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

GB 2064265 teaches a moisture barrier (7) in front of a microphone of a telephone handset.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (703) 305-4844. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (703) 305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HL
September 3, 2004



HUYEN LE
PRIMARY EXAMINER